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CONVERGENCE OF SOCIAL PROTECTION REVIEWED

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1. Introduction

Cornelisse and Goudswaard (2002) showed that there has been a tendency of rather strong convergence of social protection systems in the European Union and in other OECD countries over the last decades. This convergence was mainly caused by the increasing size and generosity of the welfare programs in almost all countries. The authors call this relative convergence. In absolute terms, the values of the social benefits paid as a percentage of GDP did not show any convergence. Differences in expenditure ratios between countries were still quite large at the end of the 20th century. However, they also mention that the indicators they used for their analysis (gross public expenditure on social benefits and gross replacement rates) may not be representative for the social security system at large. Indeed, most analyses of social protection are focussed on public arrangements only. But social effort is not restricted to the public domain; all kinds of private arrangements can be substitutes to public programs. For some countries recent reductions in public benefit levels were to a large extent offset by supplementary private benefits, often negotiated by social partners in wage negotiations. As far as pensions are concerned, there is a trend towards a higher share of supplementary private benefits in total income. Also, benefits can take the form of tax relief. For example: some countries use a child deduction in the income tax instead of or in addition to child benefits. In general, differences in the tax treatment of social benefits make international comparisons of social protection systems much more difficult. The OECD has recently done a comprehensive study on social expenditure, in which they account for private social benefits and the impact of the tax system on social expenditure. Also, figures on both gross and net replacement rates have become available (for unemployment benefits).

Using the OECD analysis, we will discuss in our contribution the effects of accounting for private social benefits and the impact of the tax system on social protection statistics. Using indicators as net public and private social expenditure and net replacement rates, we will analyse whether and to what extent relative and/or absolute differences will become smaller than measured by Cornelisse and Goudswaard. The paper is organised as follows. In section 2 we discuss the influence of economic integration on social protection systems, and summarise the results found by Cornelisse and Goudswaard. Next we present the results of cross-country analyses on gross and net social expenditures (section 3) and on gross and net replacement rates (section 4). Section 5 concludes the paper.

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2. Convergence or divergence?

Have social protection systems converged or diverged under the influence of economic integration and internationalisation processes? The traditional opinion – already expressed by the founding fathers of the EU - is that economic integration promotes progress in social protection across participating countries, such that convergence of social protection systems follows more or less spontaneously. Theoretically, however, economic integration can be both beneficial and harmful to social protection systems. On the one hand, it can be argued that economic integration leads to more economic development in relatively poor countries and economic development in turn strengthens the need for an extended system of social protection as well as the opportunity to fund it (Chassard and Quintin, 1993). Intensified contacts between countries may promote convergence of policies as well. On the other hand, internationalisation goes along with higher mobility of production factors. An increase in migration can cause adverse selection problems: individuals who expect to be net beneficiaries will be attracted to countries with generous social programs, while net contributors are deterred by the high tax burden in these countries. This puts social protection systems under pressure (Sandmo, 2001). More in general, the competitive position of countries with relatively generous protection systems may be damaged through higher labour costs (Sinn, 2003). As a consequence, social protection may indeed converge, but only at a very low level of protection. This is the well known race to the bottom argument. Although there are no signs that such a race to the bottom takes place, this is the main argument of those who plead for harmonisation of social policies in the EU. In reality, member states of the EU are still autonomous when it comes to the design and generosity of their social protection systems. However, both the European Council and the European Commission have proclaimed the objective of convergence of social policies of member states (European Commission, 1998). Not through harmonisation, but by using the more 'soft' open method of co-ordination. This method implies that the member states define and evaluate common objectives and instruments. Co-ordination is based on peer pressure, but does not offer the option of sanctions.

Cornelisse and Goudswaard (2002) have analysed whether social protection systems actually have converged or diverged during the past decades. To that end, they used data on gross replacement rates of unemployment benefits and data on the share of GDP spent on social benefits. The social security expenditure ratio gives an indication of the financial effort to provide social protection, while replacement rates are a measure of the level of benefits and thus of the generosity of the welfare programs. A test on convergence was carried out using the standard deviation as a statistical yardstick. A property of the standard deviation is that its value rises with the average value of the data set to which it is applied. To account for this, they also use the so-called coefficient of variation, defined as the standard deviation divided by the value of the average of the corresponding data set. They apply the term relative convergence (divergence) when observing a drop (rise) in the value of the coefficient of variation and the term absolute convergence (divergence) when using the standard deviation as criterion.

For the EU countries Cornelisse and Goudswaard find both a relative and an absolute convergence of replacement rates during the last decades. Social expenditure ratios showed a rather strong relative convergence, especially in EU countries (the present member states), but also in non-EU OECD countries. However, the EU countries did not show absolute convergence (the standard deviation hardly changed during the period of observation). The non-EU countries even displayed divergence in absolute

terms. In other words, the relative convergence they observe is the result of the rise in the average value of the expenditure ratio. Absolute differences did not decline.

But what about the indicators used? These have several limitations. It is well known that statistics on social expenditures and benefits are difficult to compare across countries. Countries use different definitions of social security and social protection. Perhaps the most important problems are related to differences in the public/private mix in the provision of social protection and differences in social policy aspects of tax systems.

3. Net total social expenditure

Adema (2001) has developed indicators that aim to measure what governments really devote to social spending, *net public social expenditure*, and what part of an economy's domestic production recipients of social benefits draw on, *net total social expenditure*. This requires capturing private social benefits and the impact of tax systems on social effort.

For private programs to be considered 'social', they need to have a social purpose and contain an element of interpersonal redistribution. Private social programs can be mandatory or voluntary. Mandatory private benefits are often incapacity related. In several countries employers are obliged to provide sickness benefits. In the Netherlands all sickness benefits are paid by employers since the privatisation of the sickness benefit program. In some countries public disability benefits (and sometimes unemployment benefits) can be supplemented by private benefits with mandatory contributions, agreed upon in collective negotiations between employers and employees. Again, the Netherlands is a good example. Occupational injuries and accidents ('risque professionel') can also be covered by mandatory private insurances. A number of EU-member states have supplementary employment-based pension plans with mandatory contributions, based on a funding system. Voluntary private social security covers a wide range of programs, of which private pension plans and private social health insurance constitute major components.[1]

The impact of the tax system on the social effort is threefold. In some countries (including the Netherlands) cash benefits are taxable as a rule, in other countries they are not. In the former countries net social effort is less than suggested by gross spending indicators. Indirect taxation of consumption by benefit recipients is another factor that may blur the picture. When indirect taxes are higher, benefit recipients have less effective purchasing power. And thirdly, the tax system can be used for social purposes. Tax deductions (e.g. family tax allowances) replace direct expenditures in some cases. The Earned Income Tax Credit in the United States is a good example of a tax break, which has the features of a social protection program. Also, tax advantages (to households or to employers) can be used to stimulate the provision of private benefits. This is often the case in supplementary pension programs, where contributions are tax exempt.

Table 1 presents figures on the net social expenditure as percentage of GDP for 1997. The picture shows an international comparison of all countries for which information is available on net social spending

1 Adema (2001, p. 12) defines private social health benefits as that part of private health benefits stemming from

indicators: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, Germany, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Sweden, the United Kingdom and the United States. Most social support is publicly provided. In the European countries the share of public social benefits in total social expenditures exceeds 90 percent, except in the Netherlands and the United Kingdom. However, the role of private arrangements of varying nature in providing close substitutes to public social protection expenditure is considerable in some OECD countries: 30 percent of all social benefits in the US and almost half of all social benefits in Korea.

Table 1 Net social expenditure (% GDP), 1997 (ranked according net social expenditure)

Country	Gross public social expenditure (2)	Gross total social expenditure (3)	Net total social Expenditure (4)	Share Private (5)
Sweden	31.8	34.8	27.3	7
Germany	26.4	28.6	26.1	6
Belgium	27.2	29.5	25.4	7
Denmark	30.7	32.0	23.5	3
Italy	26.4	27.8	22.7	5
Finland	28.7	30.0	22.1	3
Austria	25.4	27.0	22.0	5
United States	14.7	22.9	21.8	30
United Kingdom	21.2	24.9	21.8	12
Norway	26.1	27.2	21.7	3
Netherlands	24.2	29.1	21.5	15
Australia	17.4	21.7	20.4	19
Canada	17.9	22.1	18.9	14
New Zealand	20.7	21.3	17.5	3
Czech Republic	19.0	19.4	17.2	0
Ireland	17.6	19.2	16.5	7
Japan	14.2	15.1	14.7	15
Korea	4.3	8.4	8.3	47
Average	*21.9*	*24.5*	*20.5*	*9,4*
Coefficient of variation	*0.32*	*0.26*	*0.22*	*1.24*
Standard deviation	*6.91*	*6.45*	*4.52*	*11.64*
Average EU Members	*26.0*	*28.2*	*22.8*	*6.6*
Coefficient of variation	*0.15*	*0.14*	*0.13*	*0.60*
Standard deviation	*4.02*	*3.98*	*2.88*	*3.94*

note: Social expenditures include the following areas: old-age cash benefits; disability cash benefits; occupational injury and disease; sickness benefits; services for the elderly and disabled; survivors; family cash benefits; family services; active labour market policies (ALMPs); unemployment compensation; housing benefits; public health expenditure; and other contingencies e.g., cash benefits to those on low income.
We relate (net)social spending indicators to GDP at market prices rather than GDP at factor cost (as Adema does), because GDP at market prices is the most frequently used indicator of the size of an economy.

source: Adema (2001); and own calculations

health plans which contain an element of interpersonal redistribution.

The data indicate that accounting for private social benefits has an equalising effect on levels of social effort across countries. We calculated the standard deviation and the coefficient of variation. Both measures show that the variation of social expenditure decreases in case private benefits are taken into account (compare column 2 and column 3). This suggests complementarity between public and private social insurance. Apparently, preferences for the level of protection do not differ as much between countries as often suggested. Lower public protection may induce private social arrangements of different nature. But a shift from public to private provision of social protection can also be an explicit policy objective, to alleviate public budgets, or to strengthen incentives in the system. For example the privatisation of the sickness benefit program in the Netherlands was directed at increasing the incentives for employers to reduce the number of beneficiaries.

Accounting for taxes substantially reduces the average expenditure ratio (compare column 3 and 4). Especially the Nordic countries and the Netherlands put high tax levies on social benefits and ensuing consumption. This effect clearly outweighs the effect of tax breaks for social purposes, that increase social expenditure. The impact of the tax system on social expenditure also has an equalising effect on levels of social effort across the eighteen countries. The coefficient of variation drops by 16 percent, while the standard deviation even drops by 30 percent. Especially within the EU Member-countries (10 EU countries are included) differences in total net spending levels are small. Perhaps surprisingly, the net expenditure ratio of the US is higher than the OECD average (for the countries included), and only one percent point of GDP lower than the EU average (for the EU counties included) .

Obviously, this straightforward analysis is too simple to draw far-reaching conclusions. The evidence presented is only descriptive and does not explain differences in the public/private mix in social protection systems in the European Union and in the OECD. It should also be noted that differences across countries in expenditure ratios do not (always) reflect social policy. They may also reflect differences in unemployment rates or demographic structure across countries. Expenditure ratio's can thus only be considered as rough indicators of welfare state policies.

4. Replacement rates

Comparative studies of social security systems have increasingly turned to the use of replacement rates as measures of the level of benefits in different countries and therefore of the degree of social protection offered by different welfare systems (Caminada and Goudswaard, 2001 and 2002). However, also (gross) replacement rates can only be seen as limited indicators of the generosity of benefit systems (Whiteford, 1995). Some of the limitations are: 1) replacement rates are based on entitlement rules and often represent only the maximum payment available in the circumstances specified; 2) benefits are often not fully indexed, implying that benefits represent a decreasing percentage of wages; 3) not all relevant benefits may be reckoned with (such as housing subsidies or health care); and 4) taxation can blur the picture.

To monitor social policy developments, one should calculate a variety of replacement rates (differentiated to e.g. social security schemes, earnings levels, family situations, duration of spells). The basic approach

adopted by the OECD to measure replacement rates, is to compute the total benefit payable in a year of unemployment for a variety of "typical" worker and household cases (e.g. OECD, 2002). These cases include: three different durations of unemployment spell for a person with a long record of previous employment (the first year, the second and third years, and the fourth and fifth years of unemployment), three family and income situations (a single person, a married person with a dependent spouse, and a married person with a spouse in work), and two different levels of previous earnings in work (average earnings and two-thirds of average earnings). In all cases, the replacement rates refer to a 40-year-old worker who is considered a good approximation to the average situation of an unemployed person. The second column of Table 2 shows the simple (i.e. unweighted) average of the gross replacement rates in all the cases mentioned. This simple average (index) is taken to represent a summary measure of benefit entitlements.

These figures are based on gross (i.e. before taxes) wage earnings and gross benefits. Table 2 presents an international comparison of all (28) countries for which information is available on net replacement rates in 1999 as well. The third and fifth column of Table 2 show indices of net replacement rates. The calculation of net replacement rates differ in several ways compared to the calculation of gross replacement rates (see OECD 2002). Taxes and social security contributions on earnings and on benefits are taken into account. Moreover, net replacement rates do capture the effect of family-related benefits for children.[2] Also housing benefits are included in net replacement rates. Finally, the OECD database on gross replacement rates does not include social assistance (for most countries), unless it consists of a general income guarantee at a nationally determined level. This troubles the comparison of figures on gross and net replacement rates, especially for long term duration unemployment spells (column 2 and column 3). In case an index of replacement rates is used - to represent several circumstances –, part of this index will reflect incomes beyond the first period (year) of unemployment. In many countries gross benefits beyond the first year of unemployment are assumed zero (OECD 2002, p. 43). Especially for some countries the figures on gross replacement rates (column 2) are biased downwards.[3] For this reason, we calculated (less biased) figures for the gross and net replacement rates in the last two columns of Table 2. These figures show gross and net replacement rates, however, only the first period of unemployment is considered (social assistance included).

2 See OECD (2002, p. 41-43). In the index of gross replacement rates no children are included in the household types considered. In the index of net replacement rates additional household types (including children) are taken into account.

3 I..e. for Czech Republic, Hungary, Italy, Japan, Korea, Luxembourg, Poland, Slovak Republic, and Switzerland.

Table 2 Gross and net replacement rates unemployment benefits, 1999

Country	over a five year period		first period of unemployment	
	Index gross replacement rates (2)	Index net replacement rates (3)	Index gross replacement rates (4)	Index net replacement rates (5)
Australia	24.8	48.9	25.0	48.9
Austria	32.9	65.8	41.7	69.5
Belgium	39.0	69.8	45.7	72.4
Canada	30.0	54.1	49.3	78.5
Czech Republic	7.0	72.0	22.0	66.8
Denmark	65.5	80.6	66.0	80.8
Finland	39.7	69.1	54.0	81.0
France	36.9	52.2	59.0	75.3
Germany	30.3	63.4	37.0	67.5
Greece	18.7	17.1	41.3	47.1
Hungary	24.0	42.0	50.0	62.3
Iceland	52.0	67.9	52.0	67.9
Ireland	29.1	55.4	35.0	51.4
Italy	20.0	13.1	60.0	45.5
Japan	12.2	63.5	37.0	73.3
Korea	8.0	19.6	25.0	54.4
Luxembourg	27.0	75.7	80.0	84.5
Netherlands	50.9	76.4	70.7	84.8
New Zealand	29.7	65.7	30.0	65.8
Norway	41.3	69.2	62.0	74.3
Poland	10.0	59.9	29.0	51.5
Portugal	44.5	62.3	65.0	83.0
Slovak Republic	13.0	72.5	40.0	77.8
Spain	30.8	49.6	63.0	74.8
Sweden	25.7	79.4	74.0	81.5
Switzerland	37.3	83.4	74.0	88.6
United Kingdom	16.6	69.4	17.3	53.6
United States	14.0	32.2	29.0	56.1
average	*29.0*	*58.9*	*47.6*	*68.5*
variation coefficient	*0.50*	*0.32*	*0.37*	*0.19*
standard deviation	*14.3*	*19.0*	*17.8*	*13.0*
Average EU Members	*35.3*	*63.7*	*54.1*	*72.1*
Coefficient of variation	*0.35*	*0.25*	*0.32*	*0.17*
Standard deviation	*12.5*	*15.9*	*17.2*	*12.3*

note: A simple average of replacement rates (index) is taken to represent a summary measure of benefit entitlements. In all cases benefit entitlements have been estimated for two earnings levels (average earnings and two-thirds of average earnings of an Average Production Worker), several family situations, and several durations of unemployment spells. The columns show the unweigthed averages of these replacement rates. The computations assume standard circumstances such as 40 years of age, involuntary loss of the former job, long previous work record, etc. It should however be noted that the definition of the 'average durations' of an unemployment spell in columns 2 and 3 differ slightly. Moreover, for gross replacement rates three family situations are considered, while in case of the calculations of net replacement rates four family types are taken into account.

EU Members: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, and United Kingdom. We did leave out Italy, because figures for Italy are biased (see source for details)

Source: OECD, Benefits and Wages, OECD Indicators, 2002

The figures indicate that accounting for taxes and social contributions, and for family and housing benefits, substantially increases the replacement rates (compare column 4 and column 5). For several countries the index of net replacement rates numbers (nearly) twice the index of gross replacement rates: Australia, Germany, Korea, Luxembourg, New Zealand, Slovak Republic, and the United States. For the United Kingdom and the Czech Republic the differences are even larger.

Again, we calculated the standard deviation and the coefficient of variation. In case of the replacement rates in the first period of benefit receipt, the coefficient of variation drops by 49 percent, while the standard deviation drops by 27 percent (for all countries included). Especially within the EU Member-countries differences in net replacement rates levels become small. For the EU Member countries we find both a relative and an absolute equalising effect of the corrections.[4]

5. Conclusion

Comparative studies of social protection systems frequently use expenditure ratios and replacement rates as measures of the level (generosity) of benefits in different countries. It is well known that (these) statistics on social expenditures and benefits are difficult to compare across countries. The most important problems are related to differences in the public/private mix in the provision of social protection and differences in tax features. In this paper we investigated to what extent cross-country differences of social protection statistics change in case both public and private social benefits, and the impact of the tax system are taken into account. The empirical analysis indicates that accounting for private social benefits and for the impact of the tax system indeed has an equalising effect on levels of social effort across countries (as measured by social expenditure ratios and replacement rates). Especially within the EU Member-countries differences in total net spending levels and differences in replacement rates become small.

At one moment of time (1999) cross-country differences are smaller than measured by Cornelisse and Goudswaard (2002). In their paper on the tendency of convergence of social protection systems, gross public indicators of the social protection system were used. They found a strong relative, but not absolute convergence of social protection levels. Unfortunately, we do not have time-series of the adjusted figures of social protection. But the fact that differences in (adjusted) protection levels have become that small, especially between EU-countries, suggests that convergence of social protection may even have been stronger than measured by Cornelisse and Goudswaard. Probably this convergence has come about spontaneously, rather than as a result of EU policy co-ordination. Another conclusion might be that the surprisingly small differences in social protection levels across countries leave hardly any room for further convergence, given the still diverging social preferences in the member states.

4 In case we measure replacement rates over a five year period, this picture alters somewhat (compare column 2 and column 3). Our statistical yardsticks show a rather strong relative but not absolute equalising effect (the standard deviation increases when gross and net replacement rates are compared). In other words, the relative equalising effect of replacement rates we observe here is the result of the rise in the average value of the (net) replacement rates. However, these results for long term duration of unemployment spells are probably biased because of the statistical problems we referred to earlier.

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